Appl. No. 09/346,069
Amdt. dated July 23, 2003
Reply to Office Action of April 23, 2003

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claim 15 (previously amended): The composition of matter of Claim 18, wherein the carrier is a pharmaceutically acceptable carrier.

Claims 16-17 (canceled)

Claim 18 (currently amended): A composition of matter comprising:

a) a purified polypeptide, said polypeptide comprising a non-naturally ~~occuring~~ occurring vascular endothelial cell growth factor (VEGF) variant of native VEGF wherein said variant differs from native VEGF in that said variant contains at least one modification in the Kinase domain region (KDR) and/or FMS-like Tyrosine Kinase region (FLT-1), ~~sad~~said modification(s) resulting in a modification of the binding affinity of said region(s) with respect to binding affinity of KDR and/or FLT-1 receptor(s) relative to the binding affinity of native VEGF; and

b) a carrier.

Claim 19-33 (canceled)

Claim 34 (new): A composition comprising:

a) an isolated polypeptide, the polypeptide comprising a variant of vascular native endothelial cell growth factor (VEGF) wherein the variant comprises at least one modification in the Kinase domain region (KDR) and/or FMS-like Tyrosine Kinase region (FLT-1), the modification(s) resulting in a modification of the binding affinity of the region(s) with respect to binding affinity of KDR and/or FLT-1 receptor(s) relative to the binding affinity of native VEGF; and

b) a carrier.

Claim 35 (new): The composition of claim 34, wherein the carrier is a pharmaceutically acceptable carrier.

Claim 36 (new): The composition of claim 34, wherein the polypeptide comprises one or more amino acid changes in the FLT-1 region comprising amino acids 60 to 70 of native VEGF.

Claim 37 (new): The composition of claim 34, wherein the polypeptide comprises one or more amino acid changes in the KDR region comprising amino acids 78 to 95 of native VEGF.

Claim 38 (new): The composition of claim 34, wherein one or more of amino acids 63, 64, 67, 82, 84, or 86 of native VEGF are modified.

Claim 39 (new): The composition of claim 38, wherein amino acid 63 of native VEGF is modified.

Claim 40 (new): The composition of claim 38, wherein amino acid 64 of native VEGF is modified.

Claim 41 (new): The composition of claim 38, wherein amino acid 67 of native VEGF is modified.

Claim 42 (new): The composition of claim 38, wherein amino acid 82 of native VEGF is modified.

Claim 43 (new): The composition of claim 38, wherein amino acid 84 of native VEGF is modified.

Claim 44 (new): The composition of claim 38, wherein amino acid 86 of native VEGF is modified.

Claim 45 (new): The composition of claim 38, wherein amino acids 63, 64, and 67 of native VEGF are modified

Claim 46 (new): The composition of claim 38, wherein amino acids 82, 84, and 86 of native VEGF are modified.

Claim 47 (new): The composition of claim 38, wherein amino acids 63, 64, 67, 82, 84, and 86 of native VEGF are modified.

Claim 48 (new): The composition of claim 38, wherein the amino acid modification is substitution by alanine.

Claim 49 (new): A method for modulating growth of endothelial cells, comprising contacting the cells with a composition of claim 34 in an amount effective to modulate growth of the endothelial cells.

Claim 50 (new): The method of claim 49, wherein the polypeptide of said composition comprises one or more amino acid changes in the KDR region comprising amino acids 78 to 95 of native VEGF, and wherein said contacting is in an amount effective to inhibit the growth of the endothelial cells.

Claim 51 (new): The method of claim 49, wherein the polypeptide of said composition comprises one or more amino acid changes in the FLT-1 region comprising amino acids 60 to 70 of native VEGF, and wherein said contacting is in an amount effective to promote the growth of the endothelial cells.

Claim 52 (new): The method of claim 49, wherein the polypeptide of said composition comprises one or more amino acid changes in the FLT-1 region comprising amino acids 60 to 70 of native VEGF, and wherein said contacting is in an amount effective to promote the proliferation of endothelial cells surrounding trauma in vascular tissue.

Claim 53 (new): The method of claim 52, wherein the vascular tissue is human.

Claim 54 (new): The method of claim 52, wherein the trauma comprises a surgical incision, wound, or ulcer.

Claim 55 (new): The method of claim 55, wherein the surgical incision is in a mammalian heart.

Claim 56 (new): The method of claim 54, wherein the wound is a laceration, incision, or penetration of a blood vessel.

Claim 57 (new): The method of claim 54, wherein the ulcer is diabetic, hemophiliac, or varicose ulcer.

Claim 58 (new): The method of claim 49, wherein the polypeptide of said composition comprises one or more amino acid changes in the KDR region comprising amino acids 78 to 95 of native VEGF, and wherein said contacting is in an amount effective to inhibit vasculogenesis or angiogenesis.

Claim 59 (new): The method of claim 49, wherein the polypeptide of said composition comprises one or more amino acid changes in the FLT-1 region comprising amino acids 60 to 70 of native VEGF, and wherein said contacting is in an amount effective to promote vasculogenesis or angiogenesis.